

North Carolina: Annual Report of Accomplishments and Impacts July 1, 2012 – June 30, 2013

Fundamental Program/OHI

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Major Accomplishments and Outputs

The aims of the grant are to: collect, analyze, interpret and disseminate findings on the incidence of occupational injuries using existing data sets; identify trends with a focus on high-risk occupations, industries and occupations; and, put data into action by developing targeted interventions to reduce risk.

The North Carolina (NC) Fundamental program completed basic analyses to profile worker health in the state and identify trends. These efforts have resulted in potential outcomes related to decreasing the risk of injury and illness if recommendations are used. NC completed the Council of State and Territorial Epidemiologists (CSTE) Occupational Health Indicators (OHI) for 2010 and these were submitted to CSTE in June 2013. The indicators are useful in providing baseline data about worker health in the state and further, provide a starting point in identifying conditions that need more indepth analysis to better characterize problem areas impacting workers. The results have been compiled and summarized in an annual OHI summary report and a presentation of report data was given to the NC Occupational Health Advisory Group. Rates of several OHI conditions exceeded the US rate to include pneumconioses and amputations. Futher analysis was performed on ten years of hospitalization data to better characterize asbestosis and silicosis in NC which resulted in a journal article accepted by the North Carolina Medical Journal (NCMJ). This journal is published six times per year and read in print by more than 30,000 health care professionals, policymakers, government officials, business executives, educators, researchers, and interested lay people. A poster using the data was also completed for the annual epidemiology poster day sponsored by the NC Division of Public Health (NCDPH). A new data source, emergency department data, was utilized to better characterize amputations which resulted in an article published in the quarterly NCDPH Epi Notes newsletter and a report for NC OSHA to help with inspection priority setting. In addition to the OHIs the NC program identified work-related heat illness as an emerging issue due to concerns about climate change, North Carolina's climate characteristics and the potential effects of heat on both outdoor and indoor occupations. In conjunction with the Southeastern States Occupational Network (SouthON), a surveillance method was developed this grant year to conduct work-related heat injury surveillance in NC using emergency department and hospital discharge data. In an effort to build surveillance capacity in unfunded states and strengthen regional collaboration on OH issues health departments in 12 states in the Southeast came together in 2011 to form SouthON. The PI helps support this group by participating as a planning committee member. The third annual meeting will be held in October 2013. Raleigh, NC has been designated as a location for a future meeting. A presentation was given by NC at the 2012 meeting offering guidance on using surveillance data to train targeted groups. SouthON states have selected a collaboration project: work-related heat illness. A data template has been produced for participating states to provide hospitalization and emergency department data for regional analysis and publication.

The North Carolina Fundamental program used data to formulate or implement prevention strategies to reduce risks to worker health. These efforts have resulted in potential outcomes related to decreasing the risk of injury and illness if recommendations are used. The program used Census of Fatal Occupational Injury data from Bureau of Labor Statistics to identify high risk industries and other risk factors contributing to workplace deaths in NC. Promising practices were then identified to address the risk factors. Relevant state-based and national programs were selected that address these issues: construction falls, highway crashes and farm machinery and logging accidents. These programs were provided to the task force compiling evidence-based/promising practices for the Healthy NC 2020 Objectives which include one occupational health objective:

reduce workplace mortality. In addition, NC has conducted interventions with targeted groups using data from condition-specific case-based surveillance that focuses on workers. Blood lead testing data was incorporated in outreach for health providers in state and local government about new guidelines that are used to screen and educate pregnant women about lead exposure (*Guidelines for the Identification and Management of Lead Exposure in Pregnant and Lactating Women*, CDC 2010). The North Carolina Lead Ad Hoc Advisory Group/Healthy Homes Outreach Task Force, the Women's Health Branch and the NC Fundamental program collaborated on a webinar that was given to maternal health nurses and doctors in local health departments. Additionally, the NC Fundamental program collaborated with the same groups to develop a policy template that local health departments could use to implement the lead screening guidelines. Data from pesticide illness and injury surveillance is being used in the training curriculum for continuing education for pesticide applicator re-certification and associate degree agricultural students at North Carolina State University. Case narratives that tell a story are used predominately. 300 + applicators and 40 students have been trained this year. Information will be placed on-line by the NC Pesticides Safety Education Program, NC Cooperative Extension, North Carolina State University for access by all private and commercial applicators (excluding structural) in 2014. Through an incident identified in pesticide surveillance data it was determined that there may be a gap in first responders' knowledge of how to safely respond to fumigant (pesticide) releases in rural areas of NC during the growing season. Program staff did outreach for members of the Duplin County Fire Association this year to raise awareness about the dangers and precautions to take when responding to fumigant releases. This included handouts developed for first responders detailing the characteristics and precautions needed for four types of fumigants. NCDPH partnered with the US EPA, NC Department of Agriculture and Consumer Services and the NC Agromedicine Institute to conduct the training.

Publications/Presentations/Reports/Webinars

Dang G (2013) Work-related amputations in North Carolina, 2010. Epi Notes. Summer issue 2013. Raleigh NC: NC Division of Public Health. www.epi.state.nc.us/epi.

Haenens J, McDonald K, Langley R., Higgins S., Scott R., Farquhar P., Meggs W. (2013). Aldicarb: A case series of watermelon-borne carbamate toxicity. *Journal of Agromedicine*. 18: 174-177.

Dang, G et al. Descriptive review of asbestos and silicosis hospitalization trends in North Carolina, 2002 – 2011. *North Carolina Medical Journal*. (In press)

Pesticide handlers and pesticide exposure risk. NC Farmworker Health Program, Farmworker Institute, outreach training program. April 18, 2013.

How to stay safe when responding to fumigant releases. Duplin County Fire Association. July 10, 2013.

Use of pesticides surveillance data for training of targeted groups. SouthON Conference, Tampa FL. December 4, 2012.

Consequences of Pesticide Misapplications, How you or others can be injured from pesticide applications. Associate degree students, North Carolina State University, Agricultural Sciences Dept. October 23, 2012.

Lead and Pregnancy, Implementing CDC's 2010 Guidelines in North Carolina. Accessible at <http://www.youtube.com/watch?v=KGTBhgIR3IU>. CE's are available for nurses.
